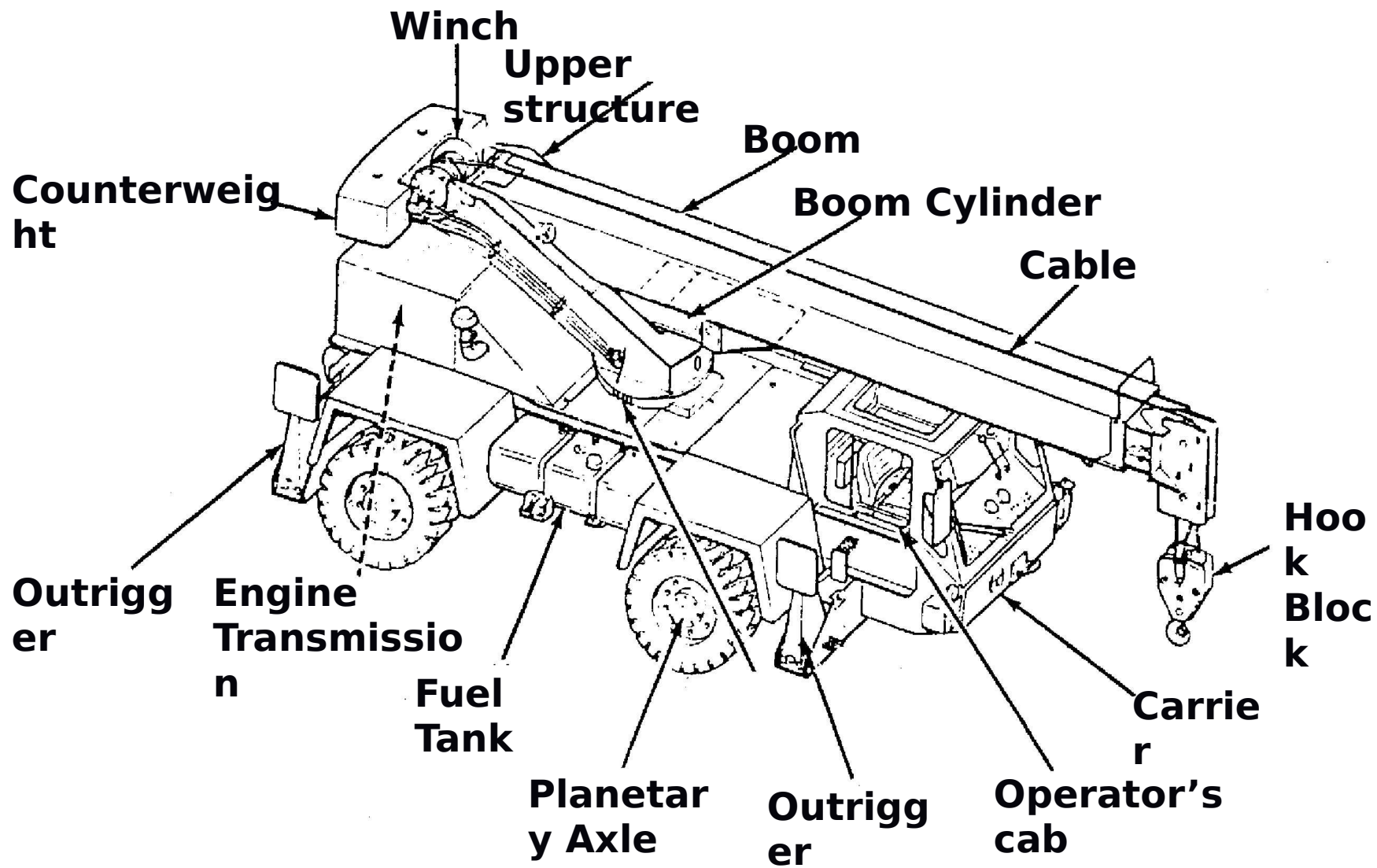


# LRT 110

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- **GySgt Brubaker**



# LRT 110

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# LRT-110

- 7 1/2 ton
- 4 wheel drive
- 4 wheel steer
- Diesel engine
- Hydraulic crane
- Designed for normal lifting operations.

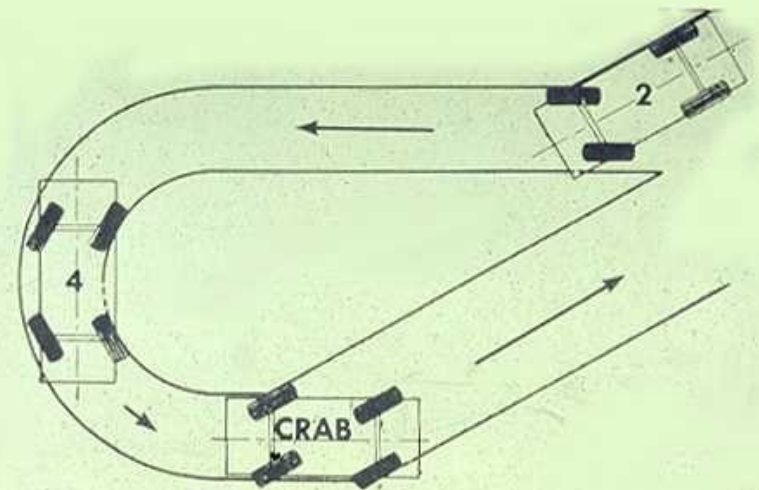


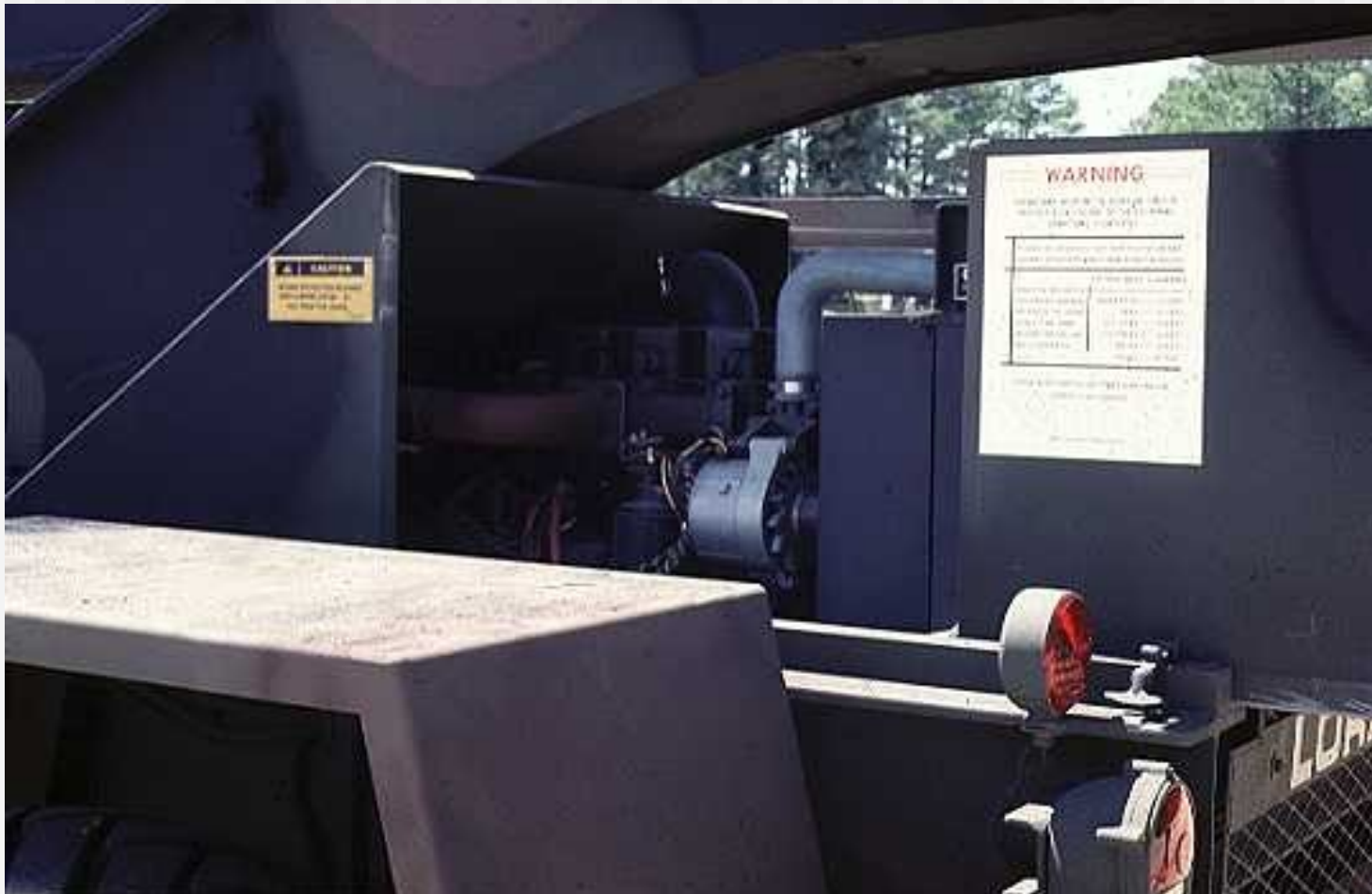
Figure 2-17. 2-Wheel, 4-Wheel and Crab Steering.

# LRT 110

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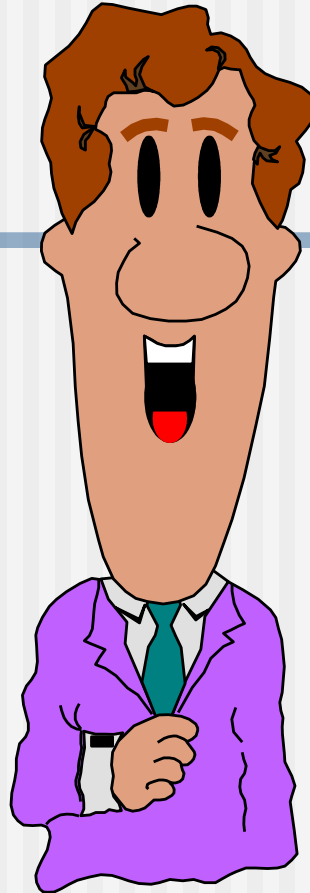
- **4 cylinder Cummins diesel**
- **EO oil pressure**
  - **10 psi idle**
  - **90 psi cold oil**

# LRT 110



# LRT-110

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- **Transmission**
  - 4 speed forward/reverse power shift unit
  - Manufactured by Funk Equipment

# LRT-110

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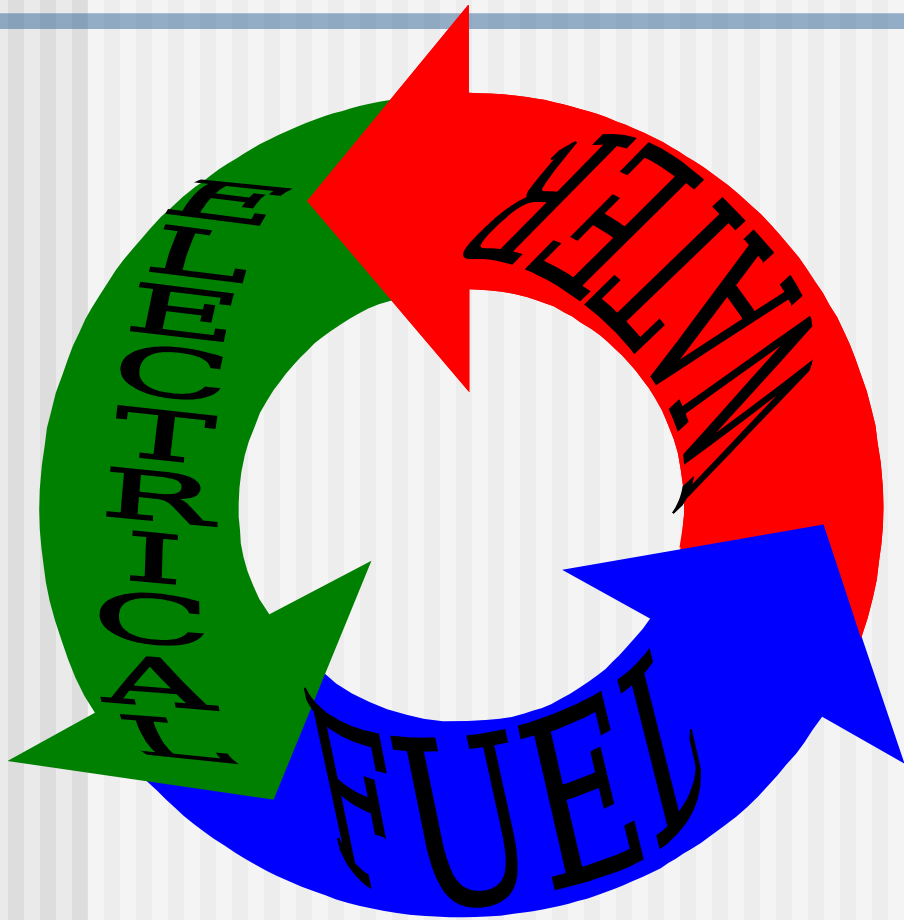


- **Lower structure**
  - **Transports upper structure**
  - **Consists of:**
    - **Power train**
    - **Axles**
    - **Outriggers**
    - **Operator's cab**



# LRT-110

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- Fuel, 44 gallons
- 24 volt electrical system
- Two 12 volt batteries.
- Coolant 140-220 degrees.

# LRT-110

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## ■ Axles

- Planetary drive with dual mounted steering cylinders.
- Rigidly mounted front axle.
- Rear axle cradle mounted, allows for oscillation.
- Rear axle locks when turntable swings 5 degrees off center.

# LRT-110

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- **Upper Structure**
  - **Revolves 360 degrees on a bearing and ring gear.**
  - **Consists of:**
    - **Boom assembly**
    - **Counterweight**
    - **Hydraulic winch**

# LRT-110 (Boom)

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- **Two section telescopic boom**
- **Max length of 35.75 feet**
- **Minimum length of 21.75 feet**

# **LRT 110 (Counterweight)**

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- **Located behind winch**
- **2200 lbs**

# LRT-110 (Winch)

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- **Hydraulically operated**
- **Capacity 350 feet of 1/2 inch wire rope**
- **180 min**

# LRT 110 (Winch)

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- **1/2 inch**
- **6 x 9 IWRC**
- **Independent Wire Rope Core**
- **IPS**
- **Improved Plow Steel**
- **Preformed**

# LRT-110 (Brakes)

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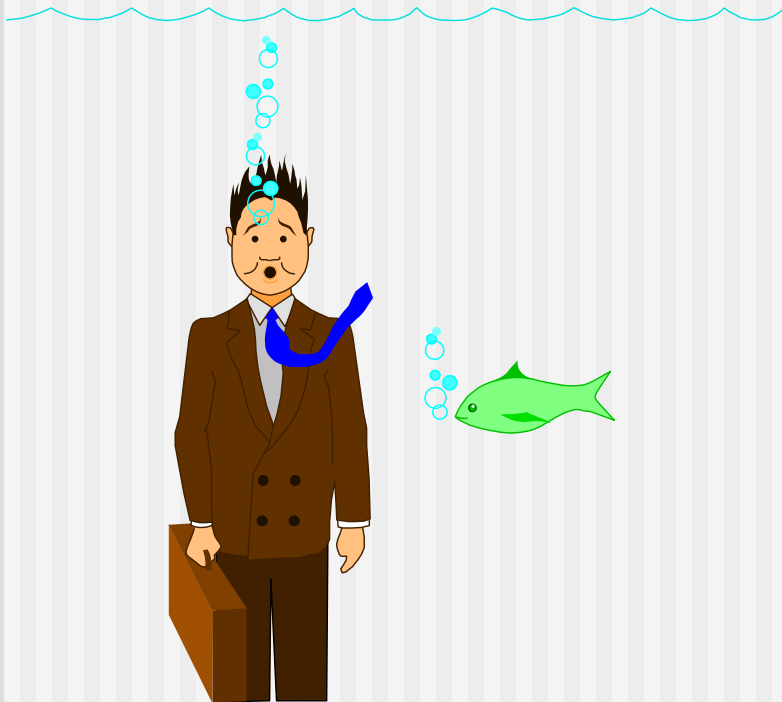
- **Hydraulically boosted**
- **Vacuum assist**
  - **If engine is not running, crane has no brakes.**





# LRT-110

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## ■ Capabilities

- Max speed 22 mph
- Fording depth 30 inches

# LRT-110 (Steering)

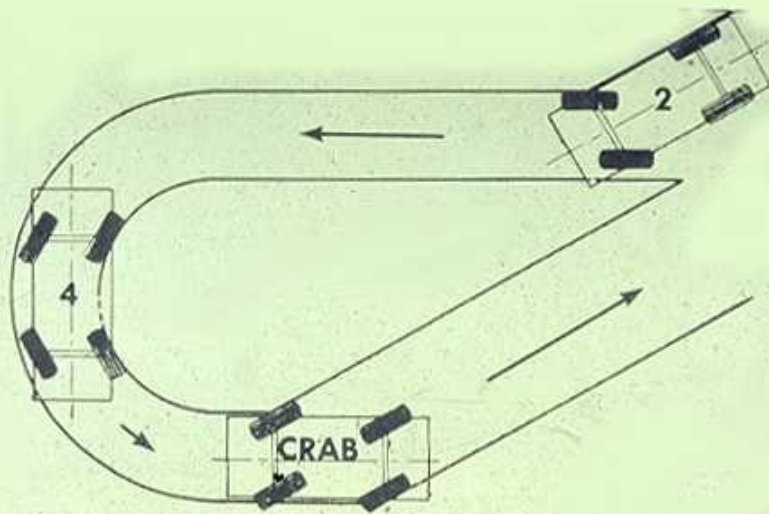
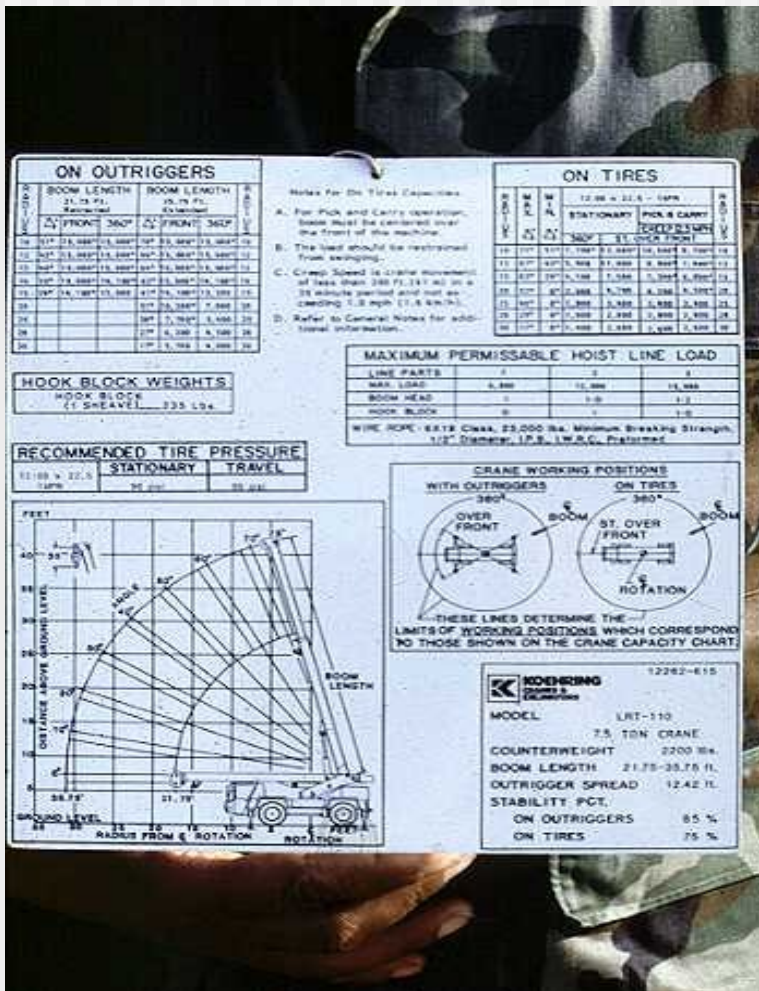


Figure 2-17. 2-Wheel, 4-Wheel and Crab Steering.

- 2 wheel
- 4 wheel
- Crab

# LRT-110

- Load Chart
- Maximum lifting capacity, 15,000 lbs.



# LRT-110 (2 Block)

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- **Anti-two-block**
- **Warns operator**
- **Hook block with horse head**
- **When activated hydraulic flow stops until operator corrects mistake**

# LRT 110 (Limitations)

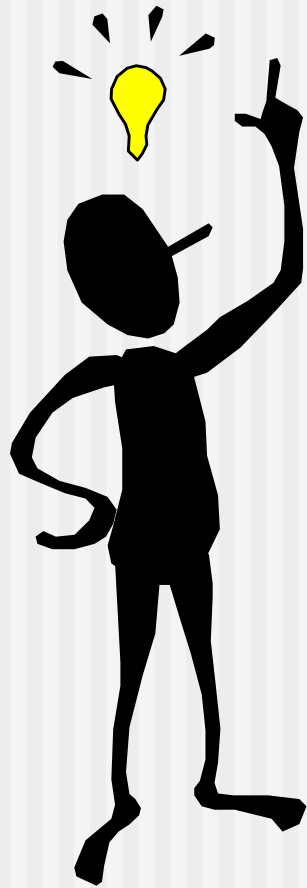
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- Max load 7.5T at 10' radius w/any boom length
- 350' wire rope
- Equipped with 180'
- Hook block
  - Reeved 3 parts of line
- Work platform

# LRT-110

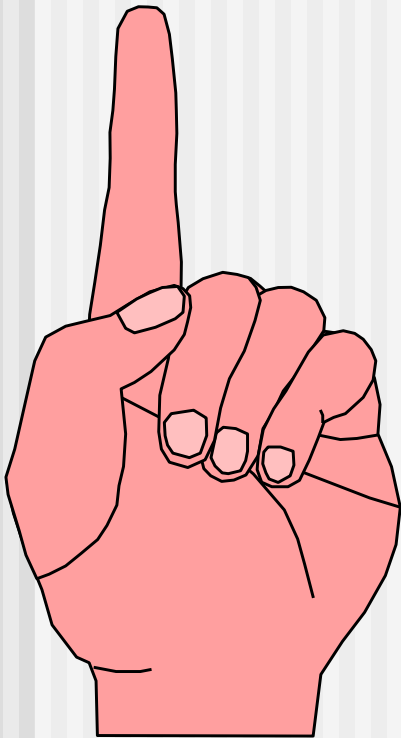
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- **All cranes, regardless of size, are rated on their maximum safe lifting capacities.**
  - **6 factors that affect lifting capacity.**

# LRT 110

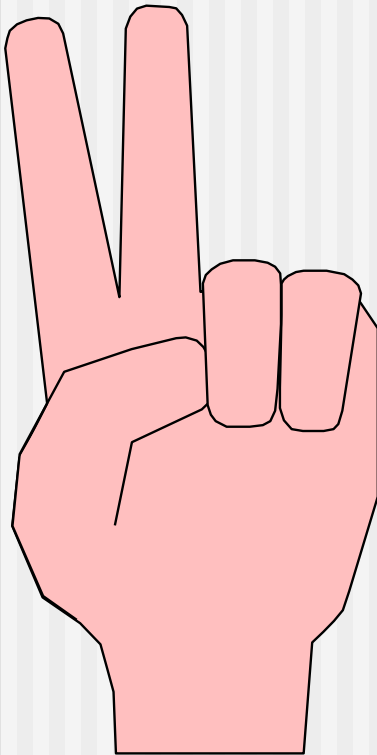
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- **1) Parts of line**
  - **Increase**
  - **Lifting capacity increases**
  - **Hook block speed decreases.**
  - **Decrease**
  - **Lifting capacity decreases**
  - **Hook block speed increases.**

# LRT-110

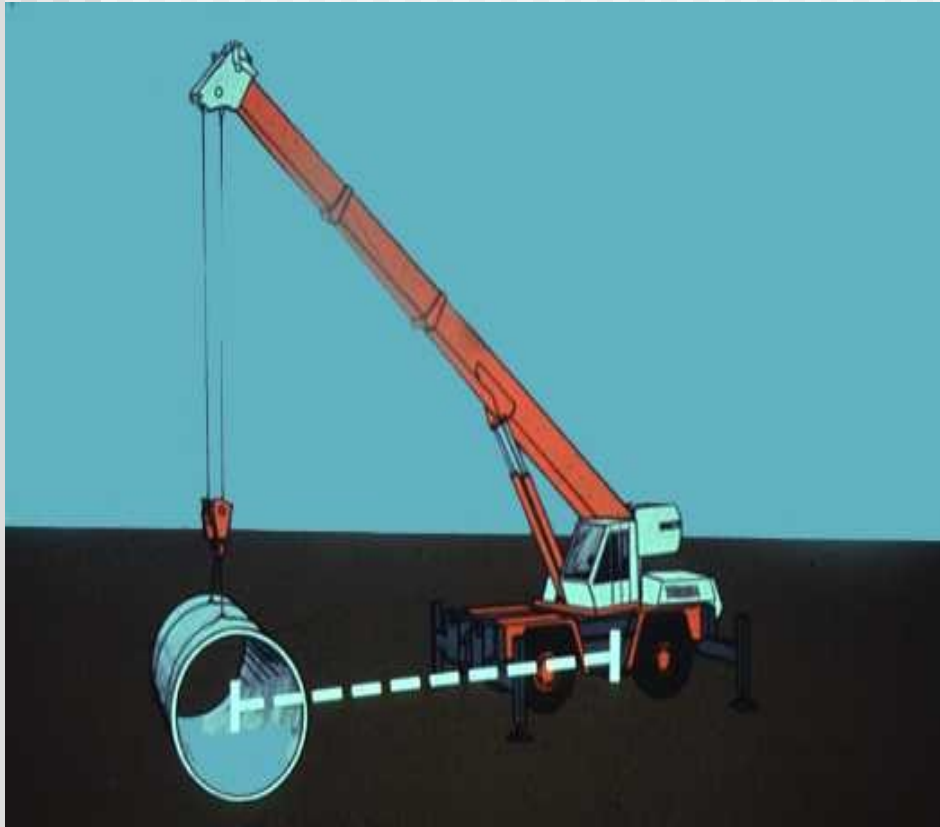
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- **2) Boom angle**
  - **Must be equipped with functioning boom angle indicator**
  - **Boom angle increases**
  - **Lifting capacity increases**
  - **Boom angle decreases**
  - **Lifting capacity decreases**



# LRT-110



- **3) Radius**
  - **Horizontal distance from center of rotation (before lifting) to center of hook block with load applied**
  - **Increasing radius decreases lifting capacity**

# LRT-110



## ■ 4) Boom Length

### ■ Increase

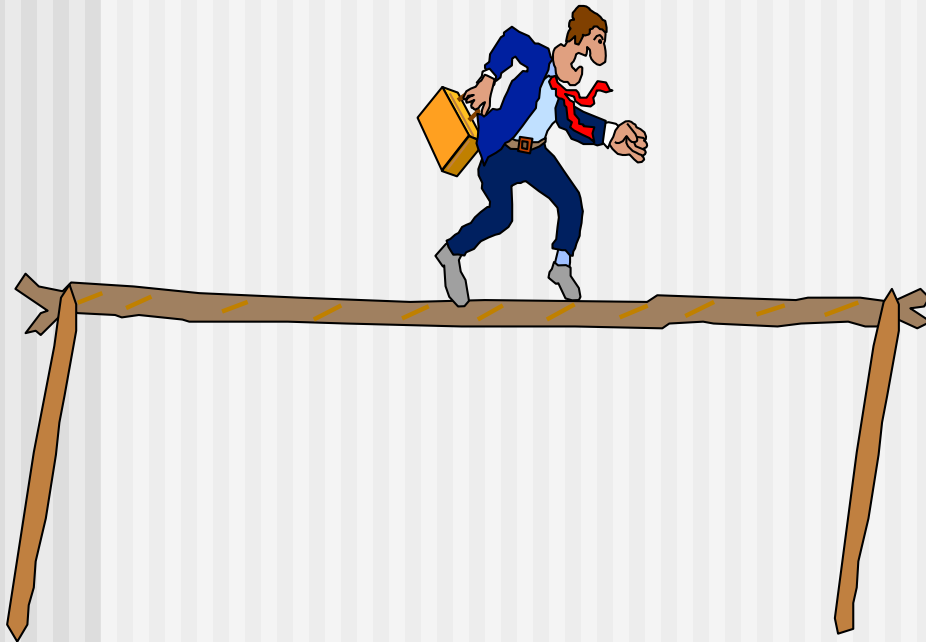
- Lifting capacity decreases

### ■ Decrease

- Lifting capacity increases

# LRT-110

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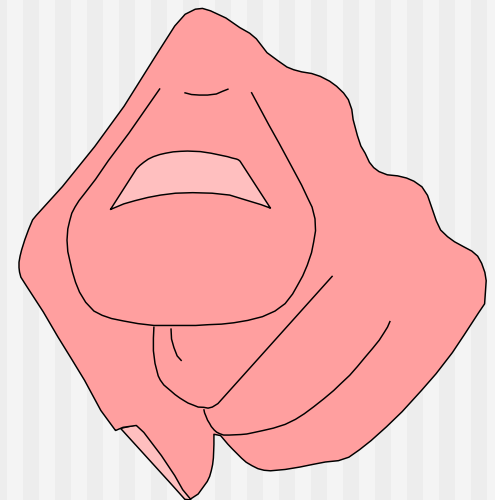
- **5) Stability**
  - **Outriggers**
    - **Stabilize**
    - **Increase lifting capabilities**
  - **Outriggers must be fully extended and down**
  - **Complete weight of crane is off tires**
  - **Crane is perfectly level**

# LRT-110

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## ■ 6) Footing

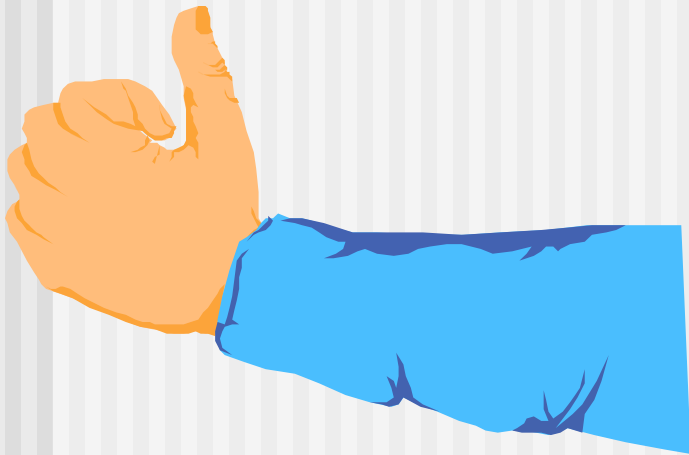
- Positioned on firm and level material to prevent accidental tipping.
- Ground is soft or uneven, wooden cribbing should be used under outrigger pads.



# LRT-110

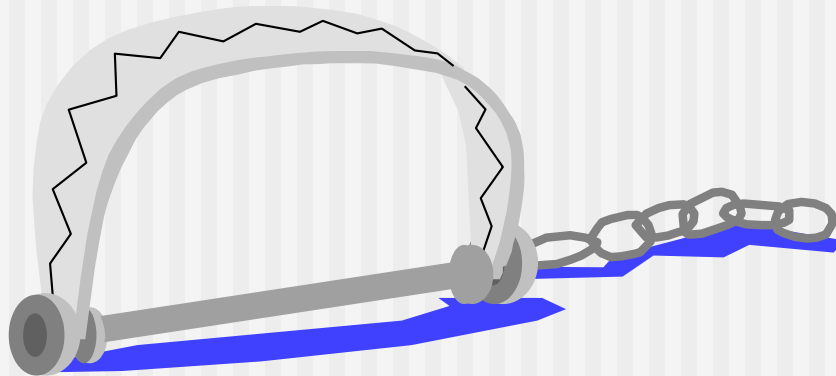
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- **Good Footing:**
  - **Level concrete**
  - **Hard packed earthen clay**



# LRT-110

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## ■ Fair footing:

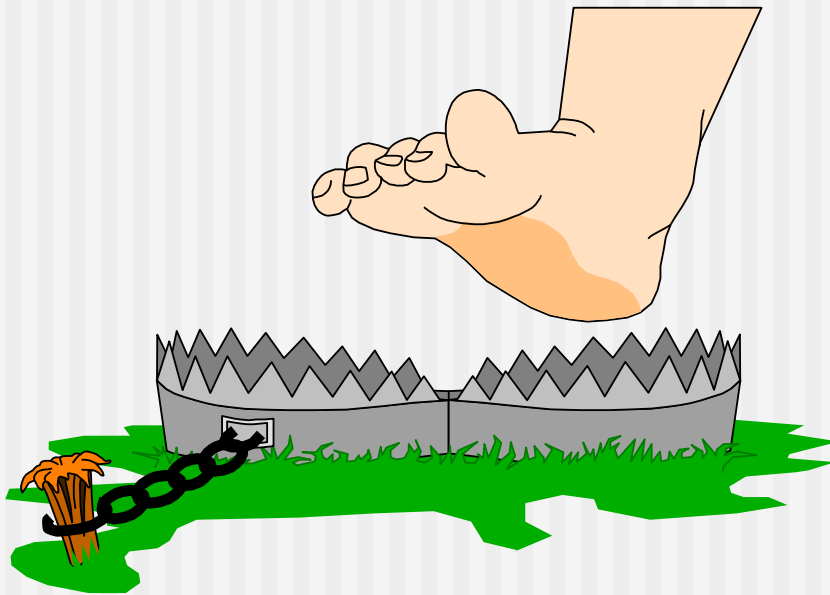
- Asphalt
- Gravel
- Earth

# LRT-110

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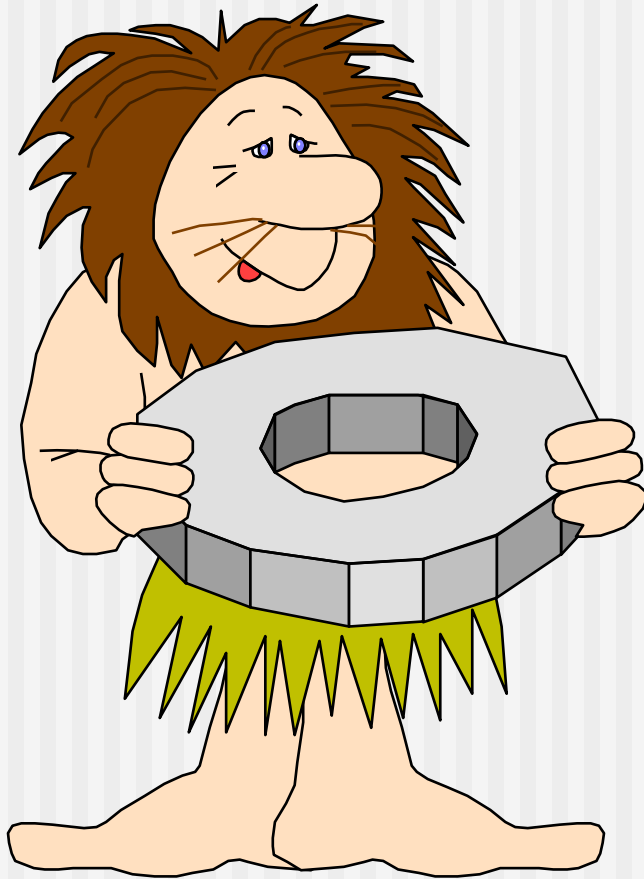
## ■ Poor footing:

- Moist earth
- Sand
- Uneven terrain



# LRT-110

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- **Are there any questions?**